

For Additional Information

If you would like additional information about the Byron Salvage Yard Superfund site, the Feasibility Study and Feasibility Study Addendum, as well as other site-related documents, are available for review at the following site information repositories

Ogle County Public Health Department
Ogle County Court House
104 South Fifth Street
Oregon, Illinois 61061

Byron Public Library
109 North Franklin Street
Byron, Illinois 61010

An Administrative Record, which contains all of the information upon which the selection of the cleanup plan will be based, also has been established at the Information Repositories and at the U.S. EPA Region 5 office in Chicago. For additional information, please contact:

U.S. EPA Contacts

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Coordinator
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U.S. EPA Region 5
77 West Jackson Boulevard
Chicago, IL 60604
Toll Free: 1-800-621-8431 (9 am -
4:30 pm CS/DT, weekdays)
<http://www.epa.gov/region5>

State Contacts

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1021 N. Grand Ave, East
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Private Use \$300

U.S. Environmental Protection Agency
Region 5
Office of Public Affairs (P-19J)
77 West Jackson Boulevard
Chicago, Illinois 60604

RETURN SERVICE REQUESTED

FIRST CLASS



Public Meetings

The U.S. EPA will sponsor a public meeting to explain the Proposed Plan and all of the alternatives presented in the Feasibility Study Addendum. Oral and written comments will be accepted at the meeting.

Date: August 25, 1999

Time: 7:00 p.m.

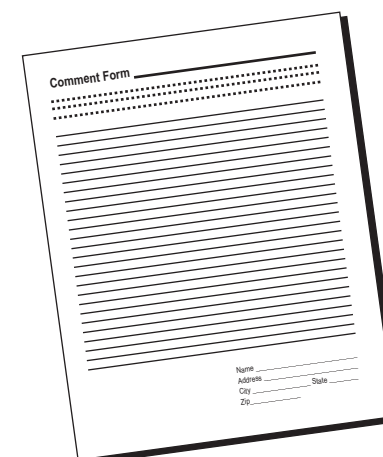
Place: Byron High School
Located on Tower Road
Cafeteria Commons Area

Public Comment Period

The U.S. EPA will accept written comments on the Proposed Plan and the other alternatives presented in the Feasibility Study Addendum during a 30-day public comment period:

August 23 through September 21, 1999

A pre-addressed comment form is provided in this Proposed Plan.



United States
Environmental Protection
Agency

Office of Public Affairs
Region 5
77 W. Jackson Blvd.
Chicago, Illinois 60604

Illinois, Indiana,
Michigan, Minnesota,
Ohio, Wisconsin

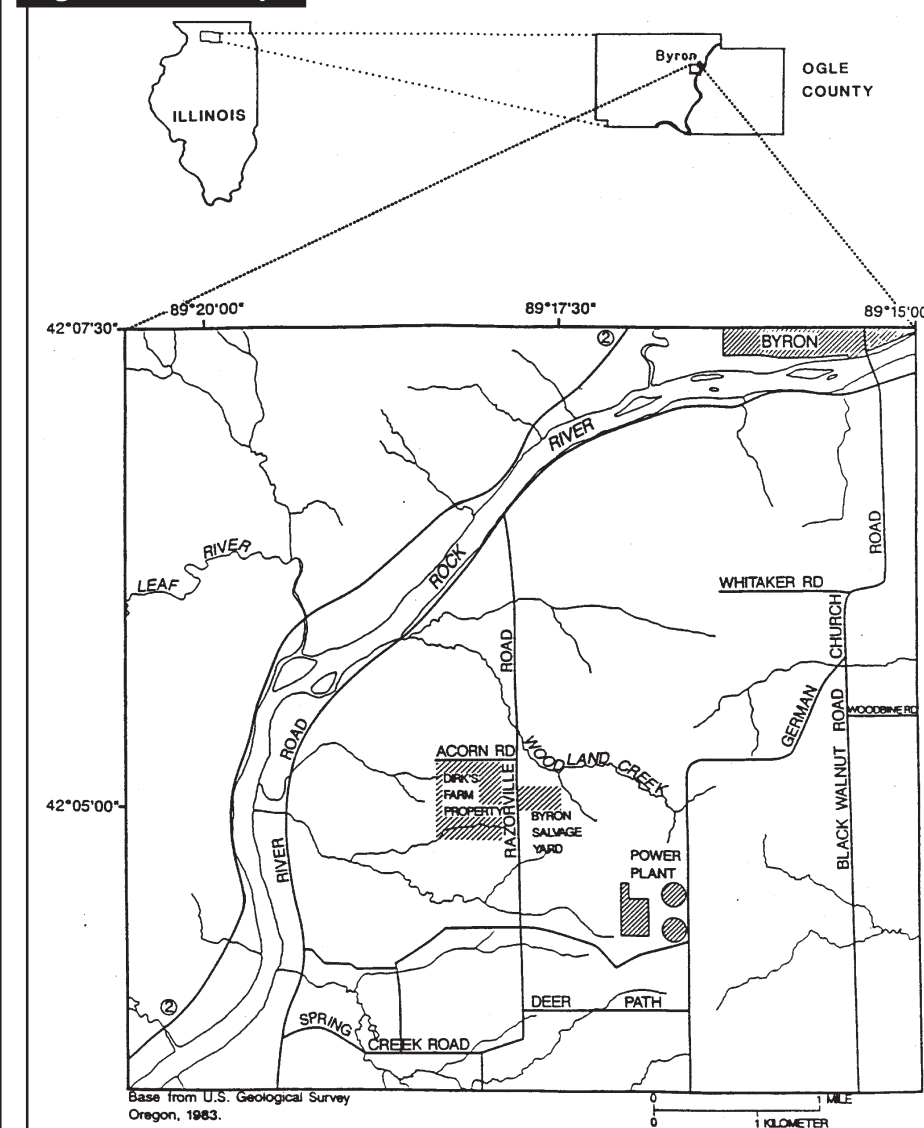
Proposed Plan

Byron Salvage Yard Superfund Site

Byron, Illinois

August 1999

Figure 1. Site Map



INTRODUCTION

The United States Environmental Protection Agency (U.S. EPA) has completed and approved a document called a Feasibility Study Addendum for the Byron Superfund Site in Byron, Illinois. The Feasibility Study Addendum supple-

ments the results of the Feasibility Study (FS) completed for the site in July 1996. The intent of the FS Addendum was to develop new ground water alternatives and revise previous ground-water clean-up alternative costs.

Proposed Plan for Byron Salvage Yard Superfund Site

This fact sheet is printed on paper made of recycled fibers.

This Proposed Plan¹ identifies the clean-up alternatives that have been considered by U.S. EPA to address the ground-water contamination at the site. The Remedial Investigation (RI) and FS Reports as well as the FS Addendum and other pertinent documents in the Administrative Record and Information Repositories should be consulted for details on the evaluation of the alternatives considered.

The objectives of the RI and FS were to determine the nature and extent of contamination at the site and to evaluate alternatives to address threats or potential threats posed by the site.

Public input on U.S. EPA's recommended alternative and other alternatives is an important part of the clean-up remedy selection process. Based on new information obtained through public comment, the U.S. EPA may modify its recommended alternative or select another alternative. The public is encouraged to review and comment on all of the alternatives evaluated by the U.S. EPA.

BACKGROUND

Site Location and Description

The site consists of the Byron Salvage Yard property and Dirk's Farm property. The contiguous properties are located in rural Ogle County in Northern Illinois, about halfway between the cities of Byron and Ogon, Illinois.

The property adjacent to the north-east boundary of the Byron Salvage Yard is Motorsport Park, a land tract used for motorcycle riding. The property adjacent to the southern boundary is privately owned. Commonwealth Edison Company owns the property southeast of the Byron Salvage Yard. Commonwealth Edison

Company also owns the Dirk's Farm property to the west of the Byron Salvage Yard. Other parcels in the area owned by Commonwealth Edison Company include the Byron Nuclear Power Plant located south-east of the Byron Salvage Yard.

Site History

In the 1960s, the Byron Salvage Yard was operated by Mr. Wilford Johnson as a junkyard where miscellaneous waste and debris were brought for disposal. Disposal activities continued until about 1972. Drums of electroplating wastes and other materials (oil sludges, paint sludges, cutting wheels, solvents, and scrap metal) were disposed of at the Byron Salvage Yard. Industrial wastes were reportedly dumped directly onto the ground during periods of heavy rainfall. The water would flow off the Byron Salvage Yard via surface water runoff into Woodland Creek. The contents of the drums found on the Byron Salvage Yard were handled in a variety of ways: wastes were pumped out of the drums by an oil/chemical salvage company and the drums and wastes were taken off site; wastes were dumped on the ground in the vicinity of ravines draining to the north; wastes were spread on the site and sprayed on nearby dirt roads for dust control; or wastes were left in drums, some of which rusted through, allowing their contents to leak out.

Similar dumping practices were also carried out during this time at the Dirk's Farm property. Industrial chemical wastes in 55-gallon drums were deposited at the Dirk's Farm property into gullies that drained to Woodland Creek and the Rock River. There were five primary disposal areas on the Dirk's Farm property, referred to as the North, South, Central, East, and West Disposal Areas,

located 300 to 1,200 feet west of Razorville Road.

The discovery of these dumping practices prompted a series of regulatory actions that culminated in the site being placed on the National Priorities List (NPL) in 1982. Various site investigations and clean-up activities have been carried out at both the Byron Salvage Yard and the Dirk's Farm properties since contamination was documented.

Clean-up Actions Taken

A significant amount of clean-up work has already been done in connection with the site. The following is a brief chronology of the previous activities conducted:

- July 1984 - Bottled water supplied to residents threatened by ground-water contamination along Razorville Road and Acorn Road,
- May 1985 - Fencing erected to limit access to the Byron Salvage Yard,
- July 1986 - The Illinois Environmental Protection Agency (IEPA) signed a Record of Decision (ROD) for the design and construction of a municipal water line to residents with contaminated ground water in the Rock River Terrace Subdivision and along Acorn and Razorville roads,
- September 1986 - The U.S. EPA signed a ROD for the installation of carbon-filter units in residences, but the remedy was not implemented due to the construction of the municipal water line.
- December 1986 - IEPA concludes clean-up actions at the Byron Salvage Yard including the excavation and removal of buried drums and contaminated soils,

Table 2	Evaluation of Ground WaterAlternatives		
	GW1 No Further Action	(Recommended) GW2 Ground-water Monitoring and Institutional Controls	GW3 Monitored Natural Attenuation and Institutional Controls
Evaluation Criteria			
Overall protection of human health and the environment			
Compliance with Applicable or Relevant and Appropriate Requirements (ARARs)			
Long-term Effectiveness and Permanence			
Reduction of Contaminant Toxicity, Mobility, or Volume through Treatment			
Short-term Effectiveness			
Implementability			
Cost Total Present Worth	\$0	\$498,478	\$532,637
State Acceptance	The Illinois EPA is reviewing the components of the recommended alternatives and acceptance is withheld until after the public comment period.		
Community Acceptance	Community acceptance of the recommended alternative will be evaluated after the public comment period.		

= Fully Meets Criterion = Partially Meets Criterion = Does Not Meet Criterion

bility of implementing the alternative, such as relative availability of goods and services.

Cost includes estimated capital and operation and maintenance costs, as well as present worth costs. Present worth cost is the total cost of an alternative over time in terms of today's dollar value.

Modify Criteria

State acceptance considers whether the State agrees with U.S. EPA's analyses and recommendations of the RI/FS and the Proposed Plan.

Community acceptance will be addressed in the ROD. The ROD will include a responsiveness summary that presents public comments and U.S. EPA responses to those comments. Acceptance of the recommended alternative will be evaluated after the public comment period.

The recommended alternatives can change in response to public comment or new information. Based on information currently available, the U.S.

EPA believes the combination of Water Supply Alternative 1 and Ground Water Alternative 2 provide the best balance of tradeoffs among the other alternatives with respect to the evaluation criteria. The U.S. EPA expects the recommended alternatives to satisfy the statutory requirement in CERCLA section 121 (b) to: 1) be protective of human health and the environment; 2) comply with ARARs; 3) be cost-effective; 4) utilize permanent solutions to the maximum extent practicable. The recommended alternatives do not satisfy the preference for treatment as a principal element for the contaminated ground water, but in this particular case, additional remediation of the ground water would not be sufficient or practicable compared to providing potable water to the affected residents.

THE NEXT STEP

The U.S. EPA will consider public comments received during the public comment period (August 23

through September 21, 1999) before selecting a final cleanup plan for the contaminated ground water at the site. All comments received during the public comment period will be addressed in a Responsiveness Summary, which will be included in the ROD. The ROD is the document that will outline the final cleanup plan.

After the final action is chosen, U.S. EPA will meet with the parties believed responsible for the site contamination. Following negotiations, the final action will be designed and implemented. If these parties are unable to negotiate an agreement with U.S. EPA, or are unwilling to do the cleanup activities, U.S. EPA may unilaterally order the parties to do the work or Superfund monies may be used to pay for the final action. U.S. EPA may try to recover these costs in federal court.

¹Section 117(a) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA) requires publication of a notice and a Proposed Plan for the site remediation. The Proposed Plan must also be made available to the public for comment. This Proposed Plan is a summary of information contained in the Remedial Investigation and Feasibility Study Reports and the Feasibility Study Addendum, and other documents in the Administrative Record for the Byron Salvage Yard Superfund site. Please consult these documents for more detailed information.

Table 1 Evaluation Criteria	Evaluation of Water Supply Alternatives		
	(Recommended) WS 1 No River Crossing	WS 2 Under River Crossing	WS 3 Railroad Bridge River Crossing
Overall protection of human health and the environment	<div></div>	<div></div>	<div></div>
Compliance with Applicable or Relevant and Appropriate Requirements (ARARs)	<div></div>	<div></div>	<div></div>
Long-term Effectiveness and Permanence	<div></div>	<div></div>	<div></div>
Reduction of Contaminant Toxicity, Mobility, or Volume through Treatment	<div></div>	<div></div>	<div></div>
Short-term Effectiveness	<div></div>	<div></div>	<div></div>
Implementability	<div></div>	<div></div>	<div></div>
Cost Total Present Worth	\$2,984,500	\$3,995,400	\$4,757,600
State Acceptance	The Illinois EPA is reviewing the components of the recommended alternatives and acceptance is withheld until after the public comment period.		
Community Acceptance	Community acceptance of the recommended alternative will be evaluated after the public comment period.		

= Fully Meets Criterion

= Partially Meets Criterion

= Does Not Meet Criterion

Alternative 3 - Monitored Natural Attenuation (MNA) and Institutional Controls. The major components of this alternative are natural attenuation monitoring and institutional controls.

Alternative 3 would demonstrate that chemical, physical and biological processes are occurring to degrade contaminants. Monitoring is necessary to check that these processes are occurring. Institutional controls would prohibit/limit ground-water use until health-based drinking water standards have been attained. Again, because of the fractured bedrock it could take over 100 years to attain health-based drinking water standards.

The ground-water monitoring program would require the monitoring plan specified in Alternative 2 and a more extensive list of analytical parameters which results in a slightly higher cost. Institutional controls are the same as those outlined in Alternative 2.

Estimated Capital Cost: \$54,281

Estimated Annual O&M Costs: \$38,549
Estimated Present Worth of O&M: \$478,456

Total Present Worth: \$532,637

Estimated Months to Construct: 0 Months

Estimated Cleanup Time: Over 100 years
 (The ground-water alternatives are evaluated in Table 2.)

EVALUATING THE ALTERNATIVES

U.S. EPA used the following nine criteria to evaluate each of the alternatives described in the Proposed Plan.

Threshold Criteria

Overall protection of human health and the environment determines whether an alternative eliminates, reduces, or controls threats to public health and the environment through institutional controls, engineering controls, or treatment.

Compliance with Applicable or Relevant and Appropriate Requirements (ARARs) evaluates whether

the alternative meets federal and state environmental statutes, regulations, and other requirements that pertain to the site or whether a waiver is justified.

Balancing Criteria

Long-term effectiveness and permanence considers the ability of an alternative to maintain protection of human health and the environment over time and the reliability of such protection.

Reduction of contaminant toxicity, mobility, or volume through treatment evaluates an alternative's use of treatment to reduce the harmful effects of principal contaminants, their ability to move in the environment, and the amount of contamination present.

Short-term effectiveness considers the length of time needed to implement an alternative and the risks the alternative poses to workers, residents, and the environment during implementation.

Implementability considers the technical and administrative feasi-

- June 1989 - The U.S. EPA signs a Record of Decision concurring with and providing for the extension of the 1986 IEPA water line to include additional impacted residences. Alternative Concentration Limits (ACLs) are developed for the northwest ground-water plume coming from the salvage yard property,
- September 1990 to 1994 - The U.S. EPA determined that a number of unanswered questions remained concerning the nature and extent of contamination on the site. An RI was initiated and contaminants were found in the ground water on the Dirk's Farm property. Concentrations of heavy metals and volatile organic compounds (VOCs) in soil were found to pose potential human health and ecological risks,
- 1992 - IEPA extended the water line to include additional impacted residences,
- September 1994 - The U.S. EPA initiated an FS to determine available options for remediating the site, and
- September 1998 - U.S. EPA signs a ROD for cleaning up contaminated soil at the Byron Salvage Yard and the Dirk's Farm property.

Risk Assessment Results

A baseline risk assessment was performed by the U.S. EPA in 1994. This Risk Assessment showed that an elevated or possibly an unacceptable risk occurs under current land use scenarios for trespassers who are both exposed to on-site contamination and also live at a home with contaminated ground water, dependent on the well location. An unacceptable risk occurs for those residents who consume contaminated ground water pumped from within

boundaries of the contaminated ground-water plume that exceeds health standards. Under potential future land use scenarios, residents and construction workers could be exposed to contaminants that pose an unacceptable health risk. (All documents relating to the risk assessment at the site may be viewed at the information repositories listed on the back page of this Proposed Plan.)

Site-Specific Clean-up Objectives

Preliminary remediation goals (PRGs) (i.e., clean-up goals) were developed to determine the contaminants of concern for the site. The contaminants of concern are constituents in the ground water or surface water which exceed the clean-up goals. The ground-water exposures were related to potential future development of the site and use of contaminated ground water for potable purposes.

The 1989 ROD which extended the existing municipal water line to additional residences also developed ACLs for the northwest plume coming from the salvage yard property. By furnishing those residents a clean water supply, MCLs for contaminants in water established pursuant to the Safe Drinking Water Act were not exceeded at the tap for those residents. In lieu of MCLs for the ground water, the U.S. EPA established ACLs for ground water as defined by CERCLA Section 121(d)(2)(B)(ii) and RCRA since:

- There are known or projected points of entry of such ground water into surface water; (Meyers Spring and the Rock River)
- On the basis of measurements or projections, there is or will be no statistically significant increase in such constituents from ground water to surface water at the point of entry or at any point where there is reason to believe

accumulation of constituents may occur downstream; and

- The remedial action will include enforceable measures that will preclude human exposure to the contaminated ground water at any point between the site boundary and all known and projected points of entry of ground water to surface water.

These circumstances described in the 1989 ROD remain true today.

Ground Water

The evaluation of the most recent ground-water monitoring and residential well sampling results and historical trends from sampling locations show ground water contaminants remain under the ACLs established for the northwest plume. In addition, contaminant levels remain under MCLs for the southwest plume originating from the Dirk's Farm property.

Ground-water data obtained during the investigations between 1990 and 1998, indicate that Dense Non-Aqueous Phase Liquids (DNAPLs), which are highly concentrated liquid sources, exist under the salvage yard. The existence of these sources will significantly extend the period of time for ground water in the salvage yard area to reach drinking water standards through natural processes or other active remediation methods. This has resulted in the re-evaluation of the long term reliability of the existing municipal water line for the effected residents.

The remedial action objectives of ground water remain:

- Prevent ingestion by residential users of ground water containing contaminants at concentrations that:
 - exceed maximum contaminant levels
 - pose a total cancer risk greater than 1 x 10⁻⁶

- have a hazard index greater than 1
- exceed IEPA Class 1 Ground water values

According to the NCP, Superfund remedies are expected to "return usable ground waters to their beneficial uses wherever practicable, within a timeframe that is reasonable given the particular circumstances of the site." Ground-water modeling was conducted to determine the effectiveness of various extraction and treatment options. The results of the modeling show that even with the most aggressive remediation methods, health-based drinking water standards could not be attained in the salvage yard within a reasonable time period due to the presence of DNAPL in this area. Because of the previous application of ACLs, the availability of a municipal water supply, the proximity of the river to which the contaminated aquifers discharge without significant impact, the fractured nature of the contaminated aquifers, it is proposed that, in this particular case, additional treatment of the source area of the plumes by ground-water extraction would not be practicable compared to ensuring the long-term reliability of potable water to residences between the site and the river.

Surface Water

Site surface water has been sampled on numerous occasions since 1975. The early sampling focused on ponded surface water at the site. High concentrations of cyanide were detected in these samples; however, after the removal of contaminated surface soils at the site, subsequent sampling events have shown no elevated contaminant concentrations in on-site surface water.

Clean-up goals were not exceeded in the Rock River, Benesh Spring, or Benesh Quarry. At Meyers Spring, Trichloroethene (TCE) has consistently been detected at elevated con-

centrations, but the concentrations have been below levels adverse to aquatic life. TCE has not exceeded ACLs at on-site or off-site surface water locations within the boundaries of the northwest plume. Cyanide was detected in Meyers Spring. It is believed that this spring is hydrologically connected to the site via ground-water discharge, and therefore the TCE contamination within the spring is a result of site contamination. Concentrations of TCE and cyanide are decreasing in the surface water. Recent water and sediment sampling in Meyers Spring show cyanide concentrations below both the Illinois State Water Quality Standards and Ambient Water Quality Criteria. Based on current analytical data, it is assumed that no surface water cleanup is required, but that long-term monitoring is needed.

Summary of Site Risks

The principal contaminants of concern at the site are VOCs in the ground water, such as TCE, Tetrachloroethene (PCE), 1,1 Dichloroethene (1-1 DCEE), 1,2-Dichloroethene (1,2-DCEA). Cyanide has also been found in the ground water.

SUMMARY OF ALTERNATIVES

Three water supply improvement alternatives were developed to address the long term reliability of the existing municipal water line.

The water supply improvement alternatives include *elements common to all three alternatives*, as follows:

Installing a water supply well in the Forest Preserve property on the southern side of Rock River,

Relocating the Rock River Booster Station,

Piping to connect the new well with the existing system,

Connecting remaining residents to the water system, and

A well siting study.

Water Supply Alternative 1 - Well, Booster Station, No River Crossing (Recommended Alternative). Alternative 1 contains all the common elements as well as the following:

Approximately 5,300 feet of piping would be installed with grassed surface restoration and 100 feet of piping would be installed with pavement surface restoration to connect the new well to the existing water system.

Install seven fire hydrants and eight valves.

There is no additional river crossing in this alternative.

Water would be provided to the affected residents either directly from the new well or from the existing river crossing. Alternative 1 will maintain the water supply to the affected residents if either the existing river crossing or new well are down for repair or maintenance. This alternative is the least costly to implement because it does not provide the looped connection of the new well that is accomplished by an additional river or bridge crossing.

Estimated Capital Cost: \$1,835,400

Estimated Annual O&M Costs: \$92,600

Estimated Present Worth of O&M: \$1,149,100

Total Present Worth: \$2,984,500

Estimated Months to Construct: 18 Months

Water Supply Alternative 2 - Well, Booster Station, Under River Crossing. Alternative 2 contains all the common elements as well as the following:

Extend the transmission main to include a river crossing. The river crossing is to be laid at the bottom of the river in the same manner as the existing one.

Approximately 1,000 feet of pipe would be installed along the river bottom, 1,805 feet with pavement surface restoration, and 7,695 feet with grassed surface restoration.

Install 14 fire hydrants and 15 valves.

Water would be provided to the affected residents either directly from the new well, from the existing river crossing, or from the proposed river crossing. Alternative 2 is also effective in maintaining the water supply to the affected residents if both the existing river crossing and new well are down for repair or maintenance. The alternative is implementable, although special national and State of Illinois permits are necessary for the river crossing that may impact the construction schedule.

Estimated Capital Cost: \$2,779,300

Estimated Annual O&M Costs: \$98,000

Estimated Present Worth of O&M: \$1,216,100

Total Present Worth: \$3,995,400

Estimated Months to Construct: 18 Months

Water Supply Alternative 3 - Well, Booster Station, Railroad Bridge Crossing. Alternative 3 contains all of the common elements as well as the following:

Extend the transmission main past Illinois Route 72 to a river crossing at the Commonwealth Edison Railroad Bridge.

Approximately 600 feet of pipe will be installed for the river crossing, 500 feet under Route 72, 1,880 feet with pavement surface restoration, and 12,020 feet with grassed surface restoration.

Install 18 fire hydrants and 20 valves.

Water would be provided to the affected residents either directly from the new well, from the existing river crossing, or from the proposed river crossing. Alternative 3 would effectively maintain the water supply to the affected areas if both the existing river crossing and new well are down for repair or maintenance. This alternative is the most difficult and costly to implement because of the need to obtain right-of-way agreements from the bridge owner to construct the crossing, facilitate repairs, and perform regular inspections.

Estimated Capital Cost: \$3,472,000

Estimated Annual O&M Costs: \$103,600

Estimated Present Worth of O&M: \$1,285,600

Total Present Worth: \$4,757,600

Estimated Months to Construct: 18 Months

(See Table 1 for evaluation of the water supply improvement alternatives.)

Ground-water Alternatives

To review the extraction and treatment alternatives previously considered for the site, see the March 1997 Proposed Plan Fact Sheet. The two monitoring alternatives previously considered in the March 1997 Proposed Plan have been updated due to changes in the type and frequency of the sampling.

Alternative 1 - No Further Action. The no action alternative is required per the National Contingency Plan (NCP). Its purpose is to allow comparison of alternatives to the conditions that currently exist and that will likely exist in the future. Under this alternative, no action would be taken to protect human health and the environment.

Cost: \$0

Alternative 2 - Ground-water Monitoring and Institutional Controls,

(Recommended Alternative). The purpose of this alternative is to minimize or eliminate exposure to hazardous substances in the ground water by prohibiting future water well development and use of contaminated ground water. The major components of Alternative 2 are ground-water monitoring and institutional controls.

Ground-water monitoring would detect whether the northwest and southwest plume boundaries are changing and provide early indication of increasing contaminant concentrations that may require additional cleanup at existing wells downgradient of the site. Physical processes are expected to degrade contaminants. The ground-water monitoring program would require quarterly water level measurements and annual sampling of approximately 4 residential and 31 monitoring wells. Institutional controls would generally include an area bounded by Razorville Road, Spring Creek Road, and the Rock River. Regardless of future ownership considerations, restrictive covenants such as deed restrictions or advisories would be placed on properties potentially affected by the plume, prohibiting ground-water withdrawal for potable use until health-based drinking water standards are attained. Because of the fractured bedrock it could take over 100 years to reach these standards. If any properties are sold, the deed would identify that ground water in the vicinity is contaminated or may be potentially affected.

Estimated Capital Cost: \$33,201

Estimated Annual O&M Costs: \$37,495

Estimated Present Worth of O&M: \$465,277

Total Present Worth: \$498,478

Estimated Months to Construct: 0 Months

Estimated Cleanup Time: Over 100 years